**Phase 2:**

**ENVIRONMENT MONITORING:**

**Innovation**

After thorough research and analysis, we arrived at an innovative solution to solve the above problem as detailed in phase 1 of our project.

●We will be using the ESP32 micro controller as well as Arduino UNO microcontroller as both these suit the best for our project.

●We chose this because we only need temperature and humidity data and post it to a public platform.

●Non local processing of data is required and hence we chose not to use Raspberry Pi Single board computer.

**Sensor**

***Digital Humidity and Temperature Sensor**

A humidity and temperature sensor, often referred to as a hygrometer or a combined hygrometer/thermometer, is a device that measures the levels of humidity (moisture content) and temperature in the surrounding environment.


***Connectivity**

Connectivity in the context of technology generally refers to the ability of devices and systems to communicate and share data with each other. There are several key aspects of connectivity:

1)Wired Connectivity

2)Internet Connectivity

3)IoT Connectivity

4)Cloud Connectivity


***BLE**

BLE stands for Bluetooth Low Energy, and it's a wireless communication technology designed for short-range communication and power efficiency.

***WIFI**

Wi-Fi, short for "Wireless Fidelity," is a wireless technology that allows electronic devices to connect to a local area network (LAN) or the internet via radio waves.

***ZIGBEE**

Zigbee is a wireless communication protocol designed for low-power, short-range, and low-data-rate applications.


***Beeceptor**

Beeceptor is a tool and service that allows developers to create mock APIs and endpoints for testing and development purposes

***MQTT**

MQTT, or Message Queuing Telemetry Transport, is a lightweight and efficient publish-subscribe messaging protocol designed for low-bandwidth, high-latency, or unreliable networks..

***Protocol**

A protocol, in the context of technology and communication, is a set of rules and conventions that define how data is exchanged and transmitted between devices or systems.

***HTTP**

HTTP, or Hypertext Transfer Protocol, is a fundamental protocol used for transmitting and retrieving data over the World Wide Web.

HTTP defines several request methods, including:

GET: Retrieve data from the server.

POST: Send data to the server (e.g., submitting a form).

PUT: Update data on the server.

DELETE: Remove data from the server.

And more, each with a specific purpose.

***AMQP**

AMQP is widely adopted in enterprise and cloud computing environments, providing a reliable and scalable method for application components to communicate.

**●Features**

●User Interface (UI): The design and layout of the software's graphical elements.

●Multi-platform Compatibility: The ability to run the software on various operating systems.

●Cloud Integration: Access and store data in the cloud for convenience.